FOREST RESOURCES COMMISSION

Background Papers - Volume 6

Preliminary Assessment of Forest Related Tourism Values
- Woodbay Consulting Group Limited

Adventure Travel and Land Use
- Pacific North Consulting

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British Columbia
Forest Resource Commission

Preliminary Assessment
of
Forestry Related Tourism Values

December 1989

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AN EVALUATION OF TOURISM AND RECREATION IN RELATION TO FOREST LAND

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AN EVALUATION OF TOURISM AND RECREATION IN RELATION TO FOREST LAND

1.0 INTRODUCTION

The task of measuring the economic impact of tourism and recreation related to forest land requires a careful assessment of available data, identification of information gaps and development of the appropriate matrix of value indicators. The reference material required for establishing the **value of forestry** is available and sufficiently accurate to develop economic impact statements.

Tourism and recreation material consists mostly of raw data **without a legacy of consistent values for economic analysis** purposes. These values can be established through a system of data review, appropriate factoring and experienced assumptions. The first step in this process is to establish **Tourism Industry Benchmarks.**

The purpose of the assessment is to conduct a **preliminary review** of current data, identify data deficiencies and develop the best estimates at this stage of the value of forestry related tourism and recreation. **No new source data has been created for the purpose of this review.**

2.0 TOURISM INDUSTRY BENCHMARKS

Statistics on tourism in British Columbia are primarily gathered by user surveys of non-resident and resident visitors travelling within the Province. This information does not provide regional or area specific values in terms of the volumes of the travelling and vacationing public or the value of their expenditures. These values must be established in order to accurately determine where visitors go and what they do in the Province. These basic **reference levels** are referred to as **Benchmarks.**

Tourism industry benchmarks, when assembled and analyzed provide the best possible value of tourism based on the number of visitors, their length of stay, expenditures, travel characteristics and many other factors including traffic flows, seasonabilty and additional data such as attendance at major attractions and changing travel preferences. This information is assembled to include resident as well as non-resident visitors and resident day trippers (excursionists).

Without the benchmarks it is not possible to determine the number of tourists going to certain areas at different times of the year.

Once the benchmarks are established the figures can be verified and refined as new data becomes available. The benchmarks can be projected to indicate future volumes and trends and used for economic analysis to determine value added, employment, taxation yields, linkages and multiplier effects.

BRITISH COLUMBIA TOURISM REGIONS

A Vancouver Island
B Southwestern B.C.
C Okanagan-Similkameen
D Kootenay Country
E High Country
F Cariboo
G North by Northwest
H Peace River, Alaska Highway
I Rocky Mountain

The following chart shows the summary of Ministry of Forests Recreation sites and trails.

MINISTRY OF FORESTS

RECREATION SITES

		Sites and Trails		Recreation Users			
Forest Region	Sites	Vehicle Units	Recreation Site	Winter Trail	Summer Trail	Dispersed	Total
Cariboo	131	1,077	275,145	15,000	1,825	310,000	601,970
Kamloops	368	3,085	443,400	115,400	24,700	250,000	833,500
Nelson	244	1,369	184,827	44,731	27,093	145,300	401,951
Prince George	205	1,838	143,700	28,588	16,750	205,000	394,030
Prince Rupert	80	853	67,115	12,220	7,650	77,367	164,352
Vancouver	152	1,763	387,586	17,450	97,143	1,652,444	2,154,623
TOTALS:	1,180	9,990	1,501,773	233,381	175,161	2,640,111	4,550,426

*NOTE: Dispersed use refers to random use of forest locations without facilities such as hikers, berry pickers, hunters setting up camp or picnickers. Numbers are based on estimates by field officers.

This is shown to indicate the magnitude of data gathering required from all sources to obtain an accurate benchmark on this segment of the visitor industry with some form of forestry orientation. Other sources would include similar summaries based on detailed data for National Parks, Provincial Parks, some Municipal Parks, certain tourist attractions such as demonstration forests, forestry museums and attendance at conducted tours of saw mills and pulp mills.

While data on Provincial Parks is available in well prepared detail it must be assumed that a large percentage of Parks visitors are touring and sightseeing rather than engaging in forestry oriented activities. Certain categories of campers are included under Adventure Travel.

Expenditures of all parks and campsites users are included in the total visitor calculations.

6.0 IDENTIFIABLE BENCHMARKS

This section shows a summary of the data used to identify the first benchmarks. This information has been drawn from a number of sources and appears as a summary for all of the Province.

These indicators are broken down to the Tourism Region level. The data that has been factored for this purpose is based on resident and non-resident visitors.

6.1 TOURISM INDUSTRY BENCHMARKS - PROVINCIAL

Tourist Category	Party Size	Average Length of Stay	Party Daily Expenditure	Total Expenditure ($000,000)	Number of Persons (000)
Non-Resident					
Overnighters	2.8	5.7	$160	1,926	6,065
Excursionists	2.8	1.0	85	62	2,069
Resident					
Overnighters	2.9	4.0	155	1,425	6,664
Excursionists	2,9	1.0	95	140	4,280
TOTAL:				$3,553	19,078

6.2 OUT OF PROVINCE VISITORS TO BRITISH COLUMBIA - 1987

Highlights (from Visitor '87)

- Total number of non-resident visitor parties - 2,605,000
- Average party size - 2.8
- Total number of non-resident visitors - 6,065,000
- American - 56%, Canadians - 34%, International - 10%
- Autos preferred - 56%, airlines - 30%, recreation vehicles - 14% of total visitor traffic.
- People who are touring account for seven out of ten travellers.
- Visiting friends and relatives for one third of visitors.
- Motels most common form of accommodation at 24% of total party nights, campgrounds - 24%, homes of friends and relatives - 26%.
- Total tourism revenue - $3,553,000,000.

6.3

TOURISM INDUSTRY BENCHMARKS BY REGION
1987 DATA

TOURIST REGION	TOTAL	S/W B.C	V.I.	ROCK	O-S	N.C.	N/NW	KC	CC-C	PR
TOTAL EXPENDITURES - $BILLION	3.55	1.67	0.92	0.25	0.21	0.21	0.14	0.04	0.04	0.04
PERCENTAGE	100%	47%	26%	7%	6%	6%	4%	1%	1%	1%
TOTAL VISITORS - ALL CLASSIFICATIONS (000'S)	19,078	7,631	4,197	1,908	1,717	1,526	763	382	382	382
PERCENTAGE	100%	40%	22%	10%	9%	8%	4%	2%	2%	2%
NON-RESIDENT PARTIES										
Length of Stay	5.7									
Party Size	2.8									
Numbers (000's)	6,065	2,426	1,334	607	546	485	243	121	121	121
Expenditure $49.95 daily ($million)	2,070	973	538	145	124	124	83	21	21	21
RESIDENT PARTIES										
Length of Stay	4.0									
Party Size	2.9									
Numbers (000's)	6,664	2,666	1,466	666	600	533	267	133	133	133
Expenditure $53.55 daily ($million)	1,427	671	371	100	86	86	57	14	14	14
EXCURSIONISTS										
Length of Stay	1.0									
Party Size	2.8									
Numbers (000's)	6,349	2,540	1,397	635	571	508	254	127	127	127
Expenditure $33.78 daily ($million)	214	101	56	15	13	13	9	2	2	2

LEGEND:

TOTAL	= PROVINCE OF B.C.	N.C.	= HIGH COUNTRY
S/W BC	= SOUTHWESTERN BRITISH COLUMBIA	N/NW	= NORTH BY NORTHWEST
VI	= VANCOUVER ISLAND	KC	= KOOTENAY COUNTRY
ROCK	= B.C. ROCKIES	CC-C	= CARIBOO CHILCOTIN - COAST
O-S	= OKANAGAN SIMILKAMEEN	PR	= PEACE RIVER

7.0 ECONOMIC INDICATORS

Basic economic indicators have been developed by using two benchmarks. These are the total figures for all visitors to B.C. and their expenditures.

Forest related activities have been calculated as shown below and broken down into employment, revenue, investment and clients as a display of economic indicators.

The resulting ratios are explained under Forest Related Activities.

FOREST RELATED INDICATORS

	Economic Activity Measures				Client Basis	
	Employment P-Years	Revenue ($000,000)	Investment ($000,000)	Wages/ Purchases ($000,000)	No. Client (000)	Nights (000)
Adventure Travel	1,610	55.7	76.4	44.0	112	1,044.6
Guide and Outfitters	1,740	22.1	N/A	N/A	10	72.2
Guest Ranches	110	3.5	N/A	N/A	31	102.4
Fishing Lodges and Resorts	1,310	70.1	N/A	N/A	178	703.8
Alpine Skiing	3,100	106.5	39.0	342.0	3,460	810.0(E)
Cruise Ship	760(E)	37.0	NIL	38.8	220	1,557.8
SUB-TOTAL	8,570	294.9	115.4	424.8	4,011	4,290.8
TOTAL TOURISM B.C.		3,553.0			19,078	

N/A = Not Available
E = Estimated
NIL = All assets are foreign ownership

NOTES TO: FOREST RELATED INDICATORS

Adventure Travel - Leisure activity that takes place in an unusual, exotic, remote or wilderness destination where most of the activity is outdoors. These activities include:

- Backpacking
- Hiking
- Mountaineering
- Heli-hiking
- Canoeing
- Kayaking
- Trail riding
- River rafting
- Nature observations
- Sailing
- Bicycling
- Scuba diving

Guide and Outfitters - Hunting related activities amount for 89% of this category; the other 11% is made of wildlife viewing and photographic safaris.

Guest Ranches - Accommodation based leisure experience which combines trail riding with the chance to explore remote areas.

Fishing Lodges and Resorts - The recreational fresh/saltwater fishing lodges and resorts operating in B.C. - a sub-set of B.C.'s sport fishing sector.

Alpine Skiing - This activity includes downhill skiing, heliskiing, snowcat touring, cross-country skiing and winter hiking and snowshoe activity.

Cruise Ship - Trips in excess of one day along the coast of B.C. to view the wilderness and sealife.

8.0 FORESTRY RELATED TOURISM

8.1 RATIOS

The tourism industry benchmarks along with the ratios developed for forest related activities forms the basis for isolating forestry tourism and recreation values.

An indications of how these ratios have been developed is shown below. At this stage because of data deficiencies these must be considered best estimates.

RATIOS BASED ON 1987 DATA

	Tourism Industry	Forest Industry	Forest Related Tourism	Percentage (%)
	(A)	(B)	(C)	(Note)
Revenue ($000,000)	3,553	12,600	295	8.3% C/A 2.3% C/B
Employment (000) P-Years	N/A	85	8.5	10% C/B
Visitor Persons (000)	19,078 (duration - 5.7 days)	Not relevant	4,011 (occasional day visitors)	21% C/A
			703 (factor down to holiday budget)	3.7% C/A

NOTE: Ratio calculation.

8.2 FUTURE VOLUMES

In order to show a picture of the growth of forest related activities, projections have been developed for a three year plan with 1987 as the base. This, presented on the basis of available data, current knowledge and reasonable expectations.

PROJECTIONS FOR YEARS 1988, 89, 90

Tourist Region		1987	1988	1989	1990
Province of B.C. -	Expenditures ($000,000)	295	318	342	366
	Visitors (000)	4,011	4,121	4,231	4,342
Southwestern B.C. -	Expenditures ($)	139	149	161	172
	Visitors	1,604	1,648	1,692	1,737
Vancouver Island -	Expenditures ($)	77	83	89	95
	Visitors	882	907	931	955
B.C. Rockies -	Expenditures ($)	21	22	24	26
	Visitors	401	412	423	434
Okanagan Similkameen -	Expenditures ($)	18	19	21	22
	Visitors	361	371	381	391
High Country -	Expenditures ($)	18	19	21	22
	Visitors	321	330	339	347
North by Northwest -	Expenditures ($)	12	13	14	15
	Visitors	160	165	169	174
Kootenay Country -	Expenditures ($)	3	3	3	4
	Visitors	80	82	85	87
Cariboo Chilcotin - Coast					
	Expenditures ($)	3	3	3	4
	Visitors	80	82	85	87
Peace River -	Expenditures ($)	3	3	3	4
	Visitors	80	82	85	87

NOTES TO PROJECTIONS

- Year-to-date September 1989. Room rentals up by 11% over previous years. Source: Central Stats Bureau.
- Year-to-year estimated population expansion in B.C. will increase over 1986 Census year as follows:

1987	1.24%
1988	2.01%
1989	2.41%
1990	2.25%

- Inflation for 1989 and 1990 is predicted to be 4.9% and 5.2% respectively.
- Average expenditure per day per person was $23 in 1979. In 1987 (8 years) that expenditure rose to $50 - 117% increase or 15% per year, simple interest.
- Visitor volume from 1979 to 1987 increased 22% or 2.75% per year.

9.0 DATA DEFICIENCIES

1. The question of **boundaries** is fundamental to the availability of useful data. Most tourism and recreation data is collected according to the **nine** tourism regions while forestry data is collected by 46 forest districts and summarized to **six** forest regions.

   It is imperative that these boundaries be rationalized before proceeding with in-depth economic comparisons between tourism and forest related activities.

2. In this review it was not possible to develop the **third benchmark**. This is the measurement of the **capacity** of the province and regions to accommodate the estimated number of visitors. Capacity refers to all services, facilities and accommodation such as hotels, motels, camping parks, recreation sites and any other private or public operations catering to visitors. The sources of information were found to be inadequate at this stage to develop a reliable benchmark.

3. The Vancouver Island Tourism Monitor is prepared by the Geography Department at the University of Victoria for the Tourism Association of Vancouver Island. It is a comprehensive raw database of visitor characteristics obtained through a direct questionnaire process. The data is broken down to the level of the seven regional districts which make up the Vancouver Island Tourist Region.

   This type of survey should be completed for the other tourism regions as one tool for obtaining a more accurate estimate of the economic values of tourism in B.C. All such surveys should include questions that will provide better information on the forestry tourism and recreation segment.

4. The Ministry of Forests has a comprehensive computerized forest land inventory. As explained in this report the forest inventory is based on standard land classification. Consideration should be given on how best to integrate into this system the requirements for forestry related tourism data as well as the existing data on recreation land.

5. Data consistency is a problem with most tourism data. Some examples are as follows:

   - Terminology between Ministries is inconsistent when referring to tourism matters.
   - Data reporting periods have different time frames in most of the reference data and can range anywhere from 1984 to 1989.
   - The terms of reference for studies funded by one Ministry are not consistent between studies. As an example a study on the Cruise Ship Industry in B.C. presents employment and capital expenditures which must be assumed to accrue to other countries because of the foreign ownership of the vessels.

6. The B.C. Resident Travel Attitude and Motivation Study - referred to as the B.C. Resident Travel Survey for 1985 does not include expenditures. For this report, some assumptions were made to allow economic analysis. The 1989 study has been completed but is not yet available. Data consistency of this document cannot be checked at this time.

10.0 IMPLICATIONS

The findings in this study represent a preliminary assessment of tourism and recreation based on those visitors activities that are **assumed** to have a relationship to the forest resource. From this exercise the values of tourism **expenditures** and **employment** have been identified and can be compared to forestry values. This represents the first step in process that should be refined when better data is developed.

If this process continues, decisions would be required on a number of items, some of which may have policy implications, as follows:

- An arbitrary identification of the categories of forestry oriented visitors was developed as the basis for this report. It is important that these categories and others be defined and a decision made on what is and is not forestry tourism. This definition requires consensus between Ministries and with tourism organizations representing the industry.

- The implication of conflicting boundaries represents a constraint to the development of consistent data to accurately compare values.

- It is important that the right data is available and that arrangements are made to collect this data in depth (or to an appropriate depth to support official statements on the subject).

The **public costs** of tourism and recreation have not been addressed in the form of support costs and subsidies. No formulas have been developed in this report because of time and costs involved.

The capital cost of tourism infrastructure may be considerable if public parks and highways are considered on a pro rata basis. As an example the Highway 99 improvements to Whistler and the infrastructure for the town centre were direct public costs in support of this major tourism complex.

Appendix D-1
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ADVENTURE TRAVEL AND LAND USE

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Pacific North Consulting

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ADVENTURE TRAVEL AND LAND USE IN BRITISH COLUMBIA

Introduction

The Tourism Industry in British Columbia has grown very rapidly for the last 10 to 15 years. During the recession in the early 80's, tourism remained a growth industry. Location being an important factor to growth, British Columbia is well situated to take advantage of the West Coast U.S. market and is ideally located to act as a gateway to the Pacific Rim markets.

As early as 1963 visitors to B.C. stated that "our magnificent scenic heritage overshadows every other reason" to visit the province. In subsequent surveys touring and sightseeing were considered the popular activities by visitors and residents alike. In 1977, the Ministry of Tourism, building on the natural scenery, wilderness, wildlife and fishing strengths of the province, launched a major ad campaign "Super, Natural British Columbia". This campaign illustrates the reliance on the land base and its scenic quality.

The complexion of the travel industry began to undertake some dramatic shifts. Energy shortages followed by world recession in the early 80's resulted in changes in the traditional travel markets. Travellers are seeking more active, meaningful experiences "to learn and acquire new interests and friends or to improve their physical well-being."[1] People wishing to get away from hectic pressure filled urban environments are seeking challenging recreational experiences, devoid of time and pressure or more relaxing, enriching past times. As a result, adventure travel and specialized touring activities dependent on the natural environment have become extremely popular world-wide and in particular North America.

Adventure Travel

There are several definitions of adventure travel. The most concise is "adventure travel generally takes place in an unusual, exotic, remote or wilderness destination and tends to be associated with high levels of involvement, participation and activity – most of it in the outdoors. Adventure travellers expect to experience varying degrees of risk and excitement and to be personally tested or stretched in some way; they are explorers of both an outer world, i.e. those unspoiled exotic parts of our planet and an inner world of personal challenge, self-perception and self-mastery."[2]

Although there is an emphasis on excitement, the products offered range from soft to risky and the element of excitement is very much an individual characteristic (Figure 1). From this perspective activity and experience range from casual observation to risky participation.

Adventure travel encompasses a wide variety of activities and experiences from downhill skiing to river rafting, hiking or fishing (Figure 2). In British Columbia adventure travel includes backpacking, hiking, mountaineering, heli-hiking, nature observation, sailing, boat cruises, bicycle touring, trail riding, downhill skiing, cross country skiing, canoeing, kayaking, river rafting, scuba diving, heli-skiing and consumptive uses hunting and fishing. These activities are land and water based.

British Columbia has been thrust on the world scene of adventure travel because of the range and diversity of adventure products and because of the perceived untouched clean green natural environment.

FIGURE 1

THE DIVERSITY OF ADVENTURE PRODUCTS AVAILABLE WORLDWIDE

ACTIVITY	SOFT/SAFE ———		EXOTIC/RISKY/"ROUGH"
Walk	Day walks through the country side	Trekking/backpacking with overnight camping	Expeditions in Nepal/ high altitude trekking
Canoe/kayak	Day canoe trips	Long-distance canoe trips with portages	River/sea kayaking
Rafting	Day-trips on Class I rivers	Class II-III rivers	Class IV-V rivers
Culture	Wineries of the Napa Valley	Visiting Thai Temples	Congo River adventure staying with native Africans
Nature Observation	Whale watching off B.C. coast	10 day cruise off Galapagos Islands	Studying gorillas in the Congo
Bicycling	Cycling in the Gulf Islands	Long-distance bicycle touring in the Rockies	Cycling through villages of China or India
Exotic Transportation	Sailing cruises through the Inside Passage, B.C.	Hot air ballooning over the Alps	Camel safaris in Africa or dog sledding in Alaska
Horse Riding	Day trips in the Rockies	Week long trail riding and overnight camping trips in the Rockies	The Australian Outback on horseback

Source: Adventure Travel

FIGURE 2

SOBEK'S CLASSIFICATION OF ADVENTURE

A **HIKE** or **TREK** is a journey on foot into areas not normally reached by road. Only day gear is carried. A trek is usually a longer trip, while hikes last just one day.

MOUNTAINEERING includes technical or extended high-country climbing, in either summer or winter. Outfitters generally provide technical gear where necessary (ropes, hardware, etc.). Ski mountaineering trips are indicated by the use of both symbols.

A **NATURAL HISTORY** trip focuses on the ecology, bird, or animal life of a given region. Guides are well-versed in biology, botany and/or geology.

RIDING trips use horses, camels or llamas to carry passengers and their gear into remote areas. In some cases the animals are used only for packing gear, not riding.

BACKPACKING trips are extended camping trips where the client is expected to carry all his or her personal gear as well as a share of the communal gear — cooking equipment, tents, etc.

SKIING includes both downhill (alpine) and cross-country (nordic) styles of skiing. Style and degree of skill needed are described in the write-ups in greater detail.

EDUCATION trips feature expert guidance and instruction from the trip guides or special teachers on the staff. Often a certificate of completion is issued. Examples include ballooning and diving trips.

The **KAYAK** symbol includes canoeing as well — small, individual type watercraft for one or two persons, usually implying a base camp from which day trips are made. In some cases native craft are used — dugout canoes in the Amazon, *shikharas* in Kashmir.

SAILING trips are cruises on wind-powered craft on lakes, open sea or in sheltered areas such as coves or sounds. The sailboats may serve as home base for the trips or be used only for day trips. Participation in the sailing is a feature of some of these trips.

DIVING includes both scuba diving with underwater breathing apparatus and skin-diving, using only snorkle and mask. Outfitters generally provide underwater equipment, including scuba gear or snorkle, mask, fins, weight belts and air compressors where appropriate.

A **CULTURE** trek or overland trip places great emphasis on encounters with life-styles different from the Western norm, such as Sherpa villages in Nepal, Quechua Indians in Peru, Papuans in New Guinea, etc. In some cases the culture is a "dead" one, encountered through archeological records, ruins, etc. (Mayas in Mexico /Guatemala, Incas in Peru).

The **FLIGHT** symbol is used where flying is a major means of transportation, as in bush flying seaplane trips, or helicopter flights. It is not included where a flight is but a means of reaching the trip proper, as a fly-in to a river trip or trek.

PHOTOGRAPHY trips focus on the skills and techniques needed to make the most out of the the photographic opportunities of a trip. A professional nature photographer is always on the staff of such trips.

The **FISHING** symbol is used when fishing is a primary part of the trip.

OVERLANDING is travel by van, four-wheel drive vehicle, or other motorized transportation to scenic or cultural highlights of an area. Usually camping is included. Though sometimes hotel or inn accommodations are used. In some cases other means of transportation may be used along the way — e.g., ferries, brief canoe trips or day hikes.

DOGSLEDDING is a time-honored means of carrying gear over snow and ice in the Arctic and sub-arctic regions of North America. Generally participants take part in leading, harnessing and maintaining the sled dog teams.

BICYCLE trips use bikes as the primary means of long-distance touring. In such cases, while a minimum amount of gear is carried in panniers, a supply wagon will follow or precede the bikers with heavier camping supplies.

HOT-AIR BALLOONING is the use of nylon balloons to take trips of an hour or more over scenic countryside, relying on the uplifting effect of hot air and the currents of wind for movement.

RAFTING is always river travel with camping equipment and personal gear being carried on inflatable rafts by oars or paddle. In a few cases, it may be a "float trip", but usually implies whitewater.

CRUISE trips use larger motor-powered ships to travel up river, over seas or along coasts for comfortable yet close views of remote areas. Accommodations are in well-appointed cabins, and most meals are taken on board.

Source: Adventure Travel

Industry Growth and Markets

The growth in adventure travel has been expanding in leaps and bounds. It has been the "fastest growing segment of the U.S. travel industry, accounting for 5 to 10 percent of the $275 billion that Americans spent on tourism in 1985."[3]

In British Columbia the early 80's saw impressive increases in river rafting, kayaking, and skiing. Outdoor recreation became a booming business. In the travel survey Visitor '87, visitors to B.C. five reported trip purpose, 10% came for wilderness or adventure and 28% for an outdoors trip. A further 55% came for a touring trip which can be linked to the scenery in B.C.

Adventure travel industry responded to shifts in the market to the point where over 570 operators are involved with the adventure travel not including, hunting and fishing. Very much adventure travel has been fuelled by the "baby-boomer" need for experience and their available disposable income. The trend will continue. Operations in B.C. estimate the annual growth for British Columbia will be 15-21% for the next five years, higher than the travel industry itself.

The trend has been to packaging and offering all encompassing trips which would include one or more of transportation, accommodation, food, and activities. It is interesting to note that the more exclusive and more remote one gets, the more travellers pay for the experience. In particular, heli-skiing and heli-hiking cater to a very affluent market simply because of the high expenses involved.

The markets for British Columbia has been the province's traditional travel markets, basically Alberta, Ontario, rest of Canada, Washington/Oregon California, and overseas. However, Adventure Travel is increasing in Eastern U.S. markets simply because of the "perception of our outstanding natural resources."[4]

Over 35 million North Americans seek adventure trips and in Canada alone 35% of the population want vacations involving adventure and outdoor activities.

The primary resident market for adventure travel is Vancouver and Victoria. The urban centers in Alberta, California, Ontario and Northeastern U.S. are considered the best areas for future growth in the non resident market segment.

British Columbia is recognized as having the ideal resources to support a growing adventure travel industry. As the product improves, becomes more sophisticated and the awareness of the B.C. product increases, this province should capture a good share of the market.

Economic Impact of Adventure Travel

In recent years due to the increasing emphasis on the environment and competing land uses as well as a growing adventure travel industry several studies have been completed, investigating various components of the adventure travel markets. The overlap between operations and product offerings makes it difficult to compare or total each component.

First of all the industry is made up of a variety of operations. Over 570 operations are involved in adventure travel not including hunting and fishing. Almost 200 operations are involved in fishing but only an estimated 135[5] offer accommodation. There is no estimate of hunting businesses but there is an overlap with both fishing and non consumptive wildlife uses. Many outfitters are involved in fishing and wildlife viewing during the non hunting seasons.

The most comprehensive review was in the report Adventure Travel in British Columbia. An estimated $55,700,000 was attributed to adventure travel in 1986. This did

not include hunting, fishing or downhill skiing. The report went on to estimate a total number of 1,044,000 client days (Figure 3).

The industry directly contributed 1610 person years of employment in 1986 with a wage income of $15,000,000. The industry purchased an estimated $29 million of goods and services from suppliers and the capital investment in the industry was estimated at $76 million in 1986.

Provincial impacts on adventure travel direct and total of the estimated 55.7 million were as follows:

	Direct	Total*
Value added	$26.6 million	$70.0 million
Wage income	$15.6 million	$46.9 million
Employment	1590 jobs	2810 jobs

* direct plus supplier-related consumer spending impacts

Source: Economic Impacts of the Adventure Travel Industry in British Columbia

It was estimated that the industry "generated $9.7 million in personal and corporate income tax to the provincial and federal governments."[6]

These figures were derived from 396 firms that off adventure travel products, contributing to the data collection process. It should be noted that this does not include all the firms operating in B.C. and it does not include the many users both resident and non resident that do not purchase an adventure travel package but prefer to "do-it-themselves". The same study estimated revenue from commercial hunting operations in 1986 to be $21 million and from fishing operations to be $57 million.

FIGURE 3

REVENUE AND CLIENT BASE OF THE B.C. ADVENTURE TRAVEL INDUSTRY

1986

Operator Class	Revenue $ Million	Overnight Clients		# Day Clients	Total Client Days*
		Number	Client-Nights		
Heli Ski	17.8	9,300	45,200	100	54,600
XSki/Ski Touring	3.9	11,900	38,000	15,400	65,300
Mountaineer/Backpack	5.9	7,900	100,100	5,600	113,600
Horse/Trail Riding	6.4	28,700	103,700	282,300	414,700
Nature Observation	2.8	2,800	17,700	2,200	22,700
Scuba Diving	2.3	17,500	48,900	18,600	85,000
Rafting	4.4	18,100	41,500	51,100	110,700
Kayak/Canoeing	1.7	8,500	30,400	1,100	43,000
Sailing Tours	7.0	5,400	35,200	20,300	60,900
Boat Tours	1.9	800	4,800	53,200	58,800
Other	1.6	1,300	7,900	6,100	15,300
Total	55.7	112,200	473,400	459,000	1,044,600

*Number overnight clients plus overnight client nights plus number day clients. i.e., number clients days for an overnight client is client-nights plus one.

Source: DPA Consulting Group, Economic Impacts of the Adventure Travel Sector in British Columbia, 1988.

Source: Adventure Travel in British Columbia.

Hunting

Figures recently released by the Ministry of Environment Wildlife Branch estimate to expenditures from direct spending of resident and non resident hunting in 1988 dollars at over $138,000,000. This figure includes travel, licence fees, food, etc. and is based on average daily expenditures from a 1981 survey updated to 1988 dollars and applying this to the 1987/88 hunter days. The same paper shows an estimated 1,393 person years of employment for resident hunting and 522 person years for non resident hunting.

Impact of Hunting
1988

	Residents	Non Residents	Total
Expenditures by hunters	$121,170,000	$17,013,400	$138,183,400
Employment (person years)	1,393	522	1,915

Source: Ministry of Environment, 1989.

Sport Fishing

The Department of Fisheries and Oceans estimated the value of fresh water sport fishing in B.C. to have a net economic value of $88 million, generating economic activity worth $300 million and saltwater fishing to be $77 million generating $350 million.

The fishing product in B.C. is world renowned for its saltwater and freshwater angling. The wilderness aspect in many ways is part of the attraction. In 1985 360,143 freshwater licenses were purchased; 21% were non resident to British Columbian anglers and came from all over North America. Non residents spent fewer days fishing in B.C. than residents – 6.6 days compared to 17.6 days. Fisheries and Oceans reported a total of 712,318 nights were spent on fishing trips by non residents. Approximately 12.7% of

these were spent at fishing lodges or camps and 9.1% were spent at other commercial accommodations.

In 1985, 332,888 tidal (saltwater) fishing licences were sold; 72% were resident, 8% other Canadians, 20% U.S. residents and 1% overseas visitors. According to Fisheries and Oceans, salmon was the predominant fish caught. Fishing was the main reason (56%) non residents came to B.C. to fish. "The two most important factors to ensure a successful fishing trip were scenic surroundings and the opportunity to catch fish."[8]

Over 925,400 nights were spent on saltwater fishing by non resident anglers – about 34% more than residents, 12% were spent in fishing lodges or camps and 16% were spent in commercial accommodation. From 1984/85 to 1986/87 resident anglers increased 8% while non resident increased 28%.

In 1988 a study of fishing lodges and resorts in B.C. was undertaken. In 1987, 135 operations were surveyed and used to estimate the total economic impact of a total of 257. The gross revenue from all sources was estimated at $70,100,000 (Figure 4). Over 64 million was attributed to sport fishing; the client base was determined to be 178,700 guests and employment at 1310 person year equivalent basis. Wages and salaries paid to residents were estimated to be $22.5 million and $28.5 were purchases from suppliers. The study estimated personal and corporate income taxes to be $12.1 million in 1987 (Figure 5).

Capital expenditures of $38.3 million resulted in the following impacts:

Gross Domestic Product/Value Added	$34.7 million
Wage or Labour Income	$23.3 million
Employment (person-year equivalent)	670

FIGURE 4

ECONOMIC PROFILE OF THE BRITISH COLUMBIA FISHING LODGE/RESORT INDUSTRY

	Saltwater	Freshwater	Total
Operations (No.)[2]	51	206	257
Gross Revenues from All Sources ($ Million)	49.0	21.1	70.1
Gross Revenues from Sport Fishing ($ Million)[3]	45.5	19.3	64.8
Client Base			
- Guests ('000)	47.8	130.4	178.2
- Client Nights ('000)[4]	158.4	545.4	703.8
Full and Part Time Employment, by Season:			
- January, 1987	360	210	570
- April, 1987	760	430	1190
- July, 1987	1210	890	2100
- October, 1987	660	600	1260
Employment: Person-Year Equivalent Basis[5]	820	490	1310
Accumulated Capital Investment ($ Million)[6]	57.1	82.3	139.6
Total 1987 Capital Expenditures ($ Million)	28.2	10.1	38.3
Wages and Salaries ($ Million)[7]	15.2	7.3	22.5
Purchases from Suppliers ($ Million)[8]	19.9	8.6	28.5

N.B. Footnotes are at the end of the chapter.

Extrapolated for industry universe from operator sample

Our estimates of the gross revenues of the fishing lodge/resort industry can be compared with the revenues of other outdoor recreation industries.

Source: Fishing Lodges and Resorts in British Columbia.

FIGURE 5

GOVERNMENT INCOME TAX REVENUE

	Personal Income Tax ($ Million)	Corporate Income Tax ($ Million)	Total ($ Million)
Provincial	2.8	1.0	3.8
Federal	6.2	2.1	8.3
Total	9.0	3.1	12.1

Source: Fishing Lodges and Resorts in British Columbia.

In a 1988 users' survey undertaken as part of the Fishing Lodges and Resort Survey, the most important factor in selecting a fishing lodge resort was natural/scenic beauty, followed by remoteness of location.

Guest Ranches

In 1987 a study of guest ranches was undertaken. Guest ranches offering a western theme include experiences such as dude ranches, working cattle ranches or farms or resorts with good quality accommodation and facilities.

To be included in the study guest, ranches had to have on-site accommodation and horseback riding. Thirty-four operations were identified and 25 were part of the study. The market for these ranches are primarily B.C. residents; however, other Canadians and U.S. visitors account for 21% and 20% of the total market, respectively. A very high proportion (14%) of the market is European.

In 1986, this segment of the adventure travel market generated an estimated $3,545,600 from 102,416 visitor nights of business (Figure 6). Total capital investment of 634 ranches for 1986 was $20,331,000. Employment was estimated at 46 full-time yearly employees, 96 full-time seasonal and 36 part-time employees.

The operators interviewed were very optimistic about the future and foresee good growth potential in the industry. Several operations "have a major concern for the protection of the environment". They are concerned over the accessibility and availability of Crown Land for trail rides. Many feel the protection of the environment is essential to the success of their business.

FIGURE 6

ECONOMIC COMPARISON OF BRITSH COLUMBIAN GUEST RANCHES: 1986

	FULL SERVICE		RUSTIC		TOTAL
	Surveyed[1]	Extrapolated[2]	Surveyed[1]	Extrapolated[2]	Extrapolated
SUPPLY					
Number of Properties	7	9	18	25	34
Number beds/night	329	429	395	471	900
ANNUAL VISITOR NIGHTS					
Total	46,500	48,500	40,572	53,916	102,416
Average/Property	6,645	--[3]	2,300	--	
ANNUAL GROSS REVENUES					
Total	$1,959,000	$ 2,609,000	$636,000	$ 936,600	$ 3,545,600
Average/Property	$ 279,900	--	$ 35,300	--	
CAPITAL INVESTMENT					
Total	$9,026,000	$13,026,000	$5,539,000	$7,305,000	$20,331,000
Average/Property	$1,290,000	--	$ 308,000	--	
TOTAL STAFF					
Yearly Full-time	30	--	16	--	46
Seasonal Full-time	44	--	52	--	96
Part-time	22	--	14	--	36

1 Economic data based on telephone survey of 25 guest ranch operators.

2 Economic data extrapolated to include the 9 guest ranches not surveyed.

3 Data have not been extrapolated.

Source: Guest Ranches of British Columbia.

Wildlife Viewing

A product segment that is just beginning to flourish in British Columbia is wildlife viewing. B.C.'s wildlife viewing resource is described as "exceptional" and the market interest in the resource is "tremendous". It is suggested that if the wildlife viewing product be developed sensible, in an environmentally sensitive manner, B.C. could "enjoy a leadership position in the burgeoning wildlife viewing tourism sector."[9] Wildlife viewing appears to be a rapidly increasing activity. Twenty-two percent of Canadians took special trips involving wildlife viewing and 45.5% had encounters with wildlife other than hunting. These figures increased proportionately from the 1981 survey by 2% and 1.5%. respectively.

The Ministry of Environment estimates the value of non consumptive uses of wildlife at $584,808,000 in 1988. This figure is based on a 1983 survey but presented in 1988 dollars. Employment in non hunting activities is estimated at 10,153 person years.

The study Adventure Travel in British Columbia 1988 estimated the commercial segment of wildlife viewing to be $2.5 million. A sample of 17 operations was used to derive this figure. The industry provided a total of 31,500 user days to yield the revenue stated.

The viewing activities in B.C. can be carried out all year long which can potentially expand the traditional tourism seasons.

The market potential is considered very good. There appears to be an increasing awareness of both wildlife and the opportunities available. Market projections outlined in the study Wildlife Viewing in British Columbia show a potential increase of 30% in primary markets and as much as 90% in secondary markets. The primary market being those who specifically travel for some form of wildlife activity (currently estimated at 10.7 million visitor days), and secondary being visitors who are active but only as part of another trip (estimated at 2.2 million persons) (Figure 7).

FIGURE 7

Wildlife Viewing Markets Summary

	Primary		Secondary	
	Immediate	Potential	Immediate	Potential
Resident	9.14 million visitor days	9.6 million visitor days	1.39 million persons	1.8 million persons
Nonresident	1.52 million visitor days	4.37 million visitor days	0.8 million persons	2.2 million persons
Totals	**10.7 million visitor days**	**14 million visitor days**	**2.2 million persons**	**4 million persons**

Source: Wildlife Viewing in British Columbia.

Cruise Ship Industry

The attraction of cruise ship industry on the B.C. coast is based on the scenic beauty of the Inside Passage, Northern B.C., and Alaska. While the industry is not dependant on land as such, it is very much dependent on the scenic integrity along the cruising routes and the abundance of wildlife both marine and land.

Currently passengers embarking from North American ports account for 86% of the passengers in the world. A steady increase of over 10% per year has been recorded in this area. Alaska accounts for 6.7% of the total passengers and is ranked as the fourth most popular destination. The Alaska market is "considered to have the second greatest growth potential"[10] of all current destinations.

B.C. ports serve as embarkation ports or ports of call for ships cruising to Alaska. In 1987 219,413 passengers were handled in B.C. ports (Figure 8). Over 77% were of the traffic went through Vancouver. Victoria, Prince Rupert and Port Hardy were the other primary ports involved. Growth has been about 10% per year since 1984.

The primary markets for the B.C./Alaska Cruises is the Western United States. primarily California (26.1% of the total). The U.S. in total contributes over 90% of the total number of passengers. The cruise industry is expected to grow at a rate of 14% per year.

One of the strengths on the B.C. ports is the variety of activities available for passengers. In particular, fishing, canoeing, hiking, scuba diving, river rafting, and horseback riding, were activities mentioned. In addition, the native heritage and wildlife resources along the coast are an added draw. Smaller cruise vessels are now offering these unique experiences in their itineraries.

FIGURE 8

NUMBER OF CRUISE PASSENGERS
THAT CALLED AT PORTS IN B.C. IN 1987

Type of Cruise	Number of Passengers
Vancouver	
Roundtrip	107,617
One-way Northbound	27,995
One-way Southbound	28,027
Port of Call	20,417
Repositioning and Round the World Cruises	20,906
Sub-Total	204,962
Prince Rupert	
Roundtrip	2,564
One-way Northbound	1,775
One-way Southbound	1,914
Port of Call	90
Sub-Total	6,343
Victoria	
Port of Call	43,211
Port Hardy	
Port of Call	9,000
Total calls made by cruise passengers	263,516
Less: Passengers that stopped in more than one port of call	44,103
Total number of B.C. passengers handled by B.C. ports	219,413

Source: Don Ference & Associates Ltd.

The economic benefits to B.C. accrued from the cruise industry are estimated to be between $66.4 and $85.3 million (Figure 9). These revenues are from passenger expenses and the provision of services, such as fuel, provisions, port charges, repairs and more.

The recommended direction for developing cruises in B.C. waters is to utilize the strengths of the unique native heritage and the rich scenic beauty of the coastal mountains and fjords and the wildlife and marine animals.

Camping

Camping in B.C. is represented in several forms. There is the use of government or public campgrounds, private campgrounds, forest recreation sites and wilderness or unorganized camping. The camping segment of the tourism industry is a significant portion of the industry but one that has not been accurately quantified.

In the travel survey Visitor '87, 24% of the visitors to the province used campground as their main form of accommodation.

Camper nights in the provincial campgrounds were as high as 2.0 million in 1985 down from 2.4 million in 1981. The reduction was attributed to the recession in the earlier 80's and the expense of RV use. Add to this total the private sector and unorganized camping the economic impact of this segment in significant.

The camping market is predominantly B.C. residents. Campground users in B.C. include the traditional tourist market areas of Washington, Oregon, California, Alberta and the rest of Canada.

FIGURE 9

ESTIMATED ECONOMIC BENEFITS OF B.C./ALASKA CRUISE SHIP INDUSTRY TO CANADA IN 1988 ($000,000'S)

Service Related	Low	High
Bunkering	14.6	15.0
Provisioning	8.5	10.5
Pilotage	2.7	2.9
Moorage, Port Charges and Services	2.9	3.4
Repairs and Maintenance	2.0	3.5
Passenger Handling	3.1	3:4
Office and Related Expenses	.8	1.0
Airports	1.1	1.4
Crew Expense	.4	.6
Sub-Total	36.1	41.7
Passenger Related		
Use of Canadian Carriers	9.0	12.0
Tours and Excursions	1.3	1.7
General Expenditures	8.6	13.8
Hotel Accommmodation and Meals	3.9	4.6
Pre and Post Tours	7.5	11.5
Sub-Total	30.3	43.6
TOTAL ECONOMIC BENEFITS	$66.4	$85.3

Source: Cruise Ship Industry Development Strategy.

Recent trends in the camping industry are changing the industry. Camping resorts are becoming more prevalent. Visitors can now purchase camping sites in newer developments. The use of RV's is continuing to grow.

Three market segments are evident.

1. The more adventuresome wilderness camper.
2. The rustic camper who prefers organized camping but few services.
3. The sophisticated camper who wants the organization and all the services from stores, showers and activities all in one site.

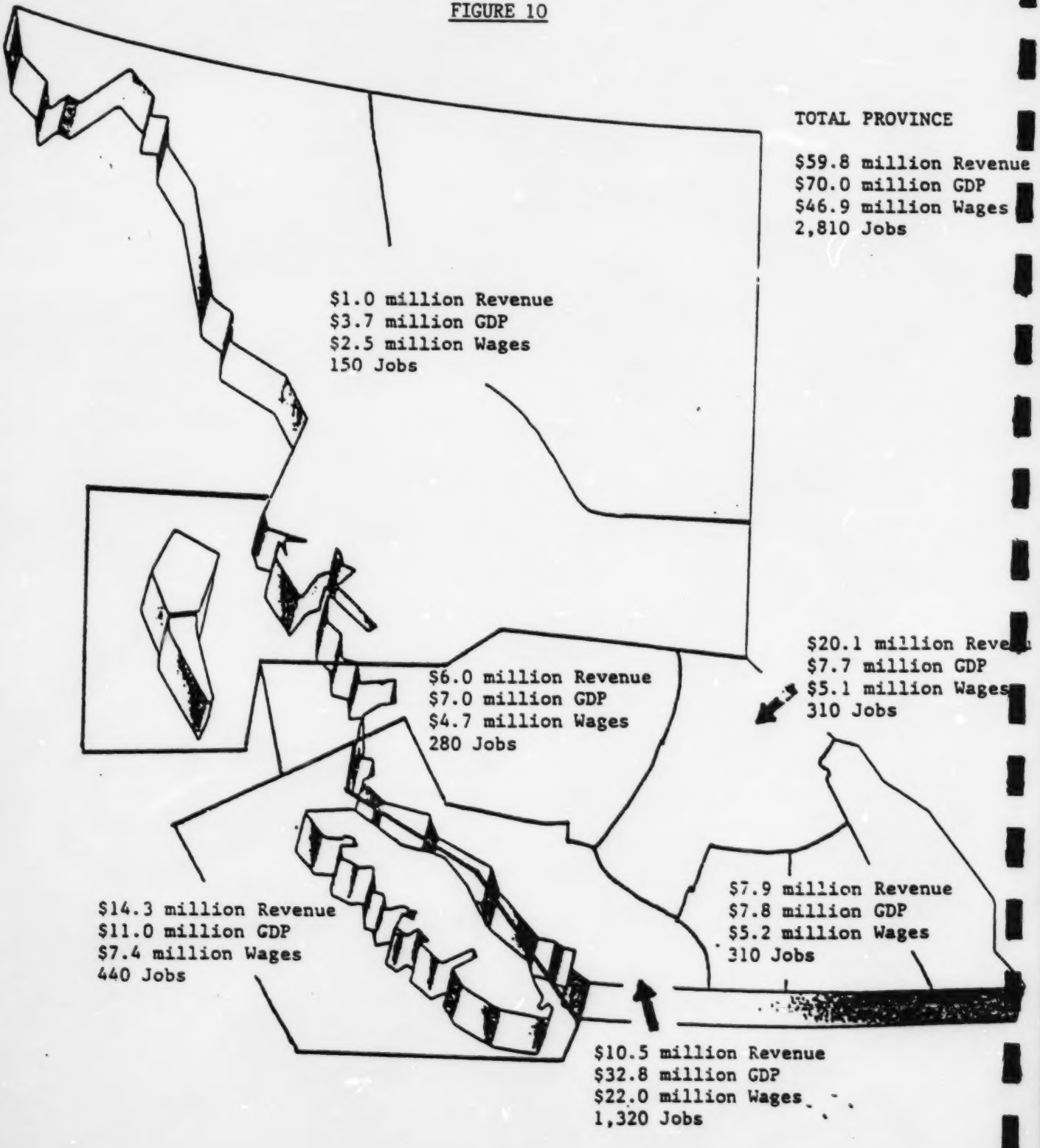
Unfortunately, the data analyzing camping is scarce. A study reviewing the RV and campground sector in B.C. has recently been completed but not released as yet. However, "focus groups" used as part of the study process looked at the motivation to camp amongst B.C. residents. Clearly getting away from the city to the outdoors was the primary motivation for B.C. residents to go camping. Camping very much was a family-oriented behaviour and appealed to all ages. Camping went hand-in-hand with other outdoor activities such as fishing, boating, hunting, swimming and hiking.

One important fact is camping in B.C. as so many other activities, is dependent on land resources.

Regional Impacts

The regional impacts in B.C. from adventure tourism are significant. First of all the nature of the industry relying on the tourism products outside urban areas increases the regional emphasis. The regional impacts from commercial enterprises were addressed in the 1986 Adventure Travel study. Figure 10 illustrates the break out of revenue, wages and jobs by Region.

FIGURE 10



Source: Economic Impacts of Adventure Travel in British Columbia.

Tourism and Land Use

The adventure tourism and outdoor recreation components are extremely dependant on the quality of the land resource. British Columbia has used the slogan Super, Natural British Columbia to underscore the adventure travel products with a great deal of success. However, all tourism in B.C. is dependant on the scenic values and natural beauty of the province.

Selling tourism is different from selling other commodities. In most cases the product is taken to the consumer but in the case of tourism the consumer is taken to the product. Therefore, transportation to and around the province is extremely important. In many cases, because of a heavy touring segment of the travel industry, transportation routes in B.C. are as much the product as resorts and attractions.

The Tourism Development Strategy produced in the early 1980's for the Ministry of Tourism recognized the importance of transportation and recommended a development approach along transportation corridors utilizing B.C.'s scenic products. They also recognized the success of tourism depends on access to the product and the consumer demand for the products.

However, one of the shortcomings of this approach was the fact that the tourism industry had no jurisdiction over its resources; therefore was at the mercy of those resource agencies that did. Currently Crown Lands are controlled by the Ministry of Forests. However, the Ministry of Forests is primarily concerned with sustaining timber production. The tourism industry is as dependent on the land use as are other resource use oriented industries and perhaps more. For example, a scenic view shed may stretch for miles and miles across open land or along transportation corridors whether it be rafting along a river, taking part in trail rides or driving in an automobile along a highway.

The lack of control over the land base does make it difficult to plan and develop long range plans for the tourism industry. Certainly there are examples of forest industry adversity affecting tourism operations.

The resources available to the tourism industry include wilderness areas, rivers for viewing and recreation, shoreline for viewing and recreation, travel routes – land and water including scenic vistas, fisheries salt and fresh, wildlife and their habitat – land and sea. All these require the integrity of the land resource to attract visitors and all have a demonstrated market appeal whether it be for the resource or a related activity that utilizes the resource.

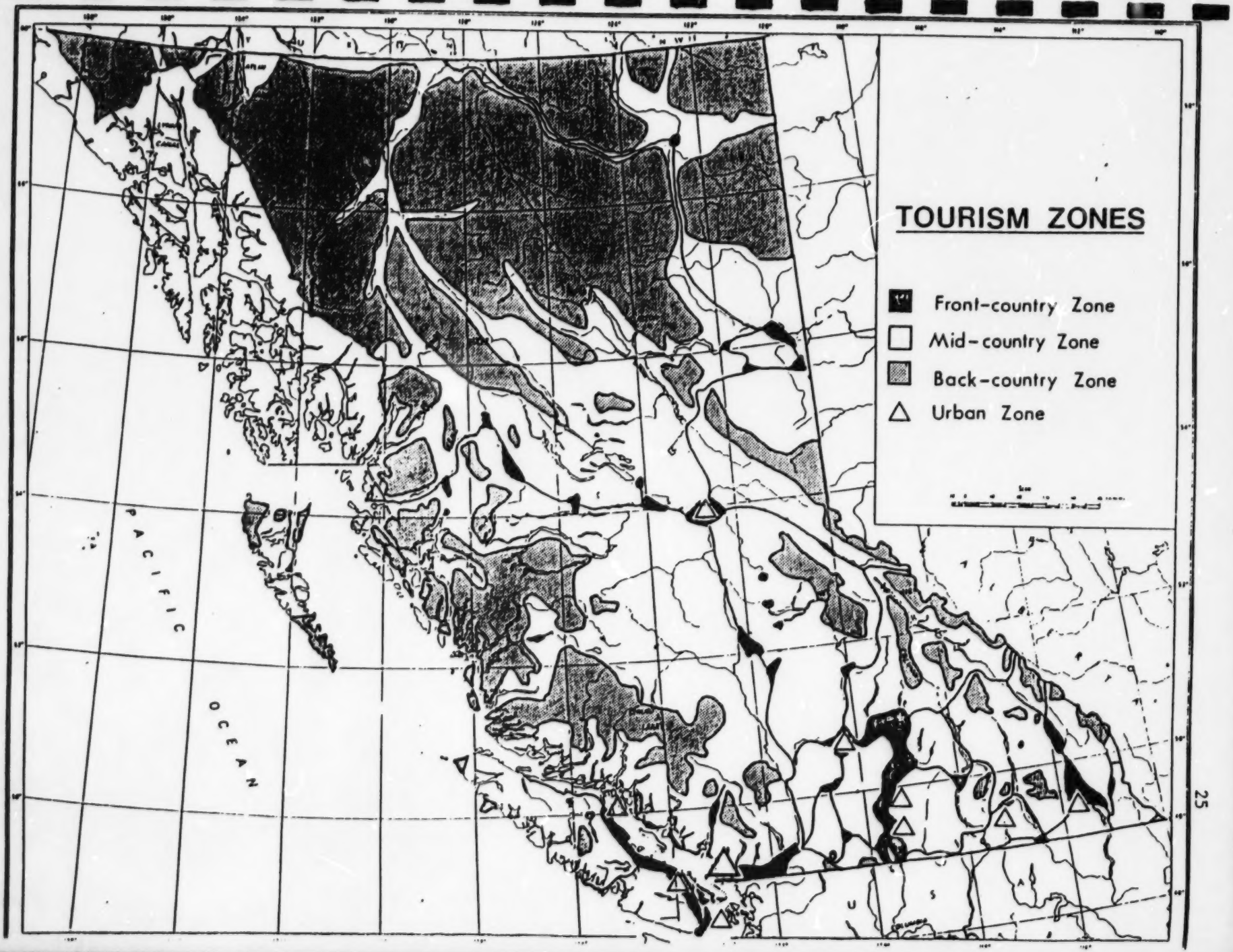
Land Classifications

It is difficult to assess the specific demands on the land base or to predict the type of demand for certain types of forest land whether it be mature timber or immature stands. A land classification system was discussed in the study Towards a Strategy for Natural Resource-Based Tourism prepared for the Ministry of Tourism. The land was differentiated into four basic land zones (see map).

1. Urban
2. Front-country/intensive
3. Mid-country
4. Back-country

The difference between the zones is based on the resources and the level of use. The level of use is generally tied to the degree of access.

The Urban Zone is made up of the larger cities and towns and is readily accessible by all visitors. There is very little demand on the provincial land base.


TOURISM ZONES
Front-country Zone
Mid-country Zone
Back-country Zone
Urban Zone
PACIFIC
OCEAN

The Front-country is the most intensive zone of tourism use where most of the services and infrastructure are provided. This zone is located along major transportation routes, generally is human altered. Recreation, attractions and activities are readily available and are tied to the volume and transportation.

Mid-country Zone is utilized by a lesser number of people. Development is on a smaller scale more in harmony with the natural environment. Mass transport is non existent except by way of secondary or back roads. The potential for land use conflict is high in this zone.

The Back-country Zone is the high quality wilderness areas that are characterized by high cost activities such as big game and fishing, river rafting, trekking, trail riding, ski touring, mountaineering, etc. There is an absence of motorized vehicles and lack of infrastructure. Landscapes have not been altered by man.

It is interesting that the "wilderness represents the ultimate image of the pristine and quality Super, Natural British Columbia."[11] It should be noted that the definition of wilderness is an individual perception, therefore changes from individual to individual. Persons from urban centres with little exposure to the outdoors may consider a provincial park in the Front-country Zone to be wilderness. It is equally important, to maintain the visual land integrity for the enjoyment of all visitors to B.C. to sustain a healthy tourism industry, no matter what zone it is in.

Conclusions

The economic contribution to the B.C. economy due to adventure travel is significant. The total impact is difficult to determine due to overlap of activities, varying methods of determining values, and information produced in different time periods.

The market potential for adventure travel indicates continued growth for many years to come and expansion at rates higher than the tourism industry.

B.C. offers a variety of activities and opportunities that are linked directly to the quality of its natural resources. The unspoiled, scenic image promoted by B.C. puts the province at the forefront of adventure travel destinations. The ability to deliver a quality experience and enhance the image will improve an already healthy industry.

Footnotes

[1] Outdoor Recreation Council, Adventure Travel in British Columbia, 1988.

[2] Ibid.

[3] L.J. D'Amore & Associates Ltd., Adventure Travel Potential for Canada, 1986.

[4] Ibid.

[5] DPA Group, Fishing Lodges and Resorts in British Columbia, 1988.

[6] DPA Group, Economic Impact of the Adventure Travel Industry in British Columbia.

[7] DPA Group/Maclaren Plansearch Corp., Fishing Lodges and Resorts in British Columbia.

[8] Ibid.

[9] Ethos Consulting, Wildlife Viewing in British Columbia, 1988.

[10] Don Ference & Associates Ltd., B.C. Cruise Ship Industry Development Strategy, 1988.

[11] L.J. D'Amore & Associates, Towards a Strategy for Natural Resource-Based Tourism, 1987.

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Appendix E-1
Values of Wildlife (Tables)

Province of British Columbia | Ministry of Environment, WILDLIFE BRANCH

MEMORANDUM

To: J.H.C. Walker, Director
D.R. Halladay, Deputy Director
Regional Fish & Wildlife Managers
Regional Wildlife Biologists

Date: March 28/89

Re: Update of the Values of Wildlife.

The enclosed tables present updated values of wildlife related activities based on the most recent information available. All values are expressed in 1988 dollars. The measures of hunting effort used to calculate hunting values are from the Summary Statistics Data Base (SSDB) for the 1987/88 season. The following provides a brief explanation of what each of the tables shows and how the values were derived.

Table 1 is taken from the results of the 1983 survey of non-hunting wildlife activities. It summarizes the number of provincial participants in the three types of non-hunting wildlife activities.

Table 2 is also from the results of the 1983 survey. It summarizes the total and average annual number of days spent in direct and indirect non-hunting wildlife activities.

Table 3 and 4 give breakdowns of estimated expenditures in British Columbia by resident and non-resident hunters for the 1987/88 season. The estimates were made by taking the average daily expenditures from the 1981 survey updated to 1988 dollars and applying them to the estimated number of hunter days for the 1987/88 season. The estimates of resident hunter effort for small game, upland birds and waterfowl were from the 1981 survey since the Hunter Sample is unable to provide an unduplicated estimate of effort for these species. The 1986/87 deer hunter days for the Kootenay and Okanagan regions were used in the calculations since the separate samples of mule and white-tailed deer hunters started in 1987/88 do not permit an unduplicated estimate of deer hunting effort.

Table 5 summarizes the estimated expenditures on non-hunting wildlife activities from the 1983 survey expressed in 1988 dollars.

. . . 2

W-549

Table 6 summarizes the estimated expenditures made in B.C. by licenced trappers for the 1986/87 season based on the provincial survey of trappers.

Table 7 presents estimates of the employment impacts of expenditures on wildlife related activities according to region and type of activity. Man-years of employment refer to the number of individuals that are employed for the equivalent of a full working year as a result of spending on wildlife related activities.

Table 8 and 9 shows the average net economic values of a hunter day for residents and non-residents according to region and species. For resident hunters, the values can be thought of as the maximum amount that hunters would be willing to pay if it were possible to charge a daily fee or price for hunting. In the case of non-resident hunters, the values represent the amount that remains after the costs of supplying goods and services to non-resident hunters are deducted from the gross expenditures they make in the province. If an enhancement proposal is being evaluated for the HCF, the values shown in the table are the appropriate values to apply to the expected increase in hunting effort to determine the benefits associated with the project. Similarly, the average daily values can be used to assess forecast losses in hunting effort when making a mitigation or compensation claim.

Tables 10 and 11 show the net economic values associated with resident and non-resident hunting by species and region for the 1987/88 season. The values in these tables were found by applying the average daily values from Tables 8 and 9 to the number of hunter days for 1987/88.

Table 12 gives the average net economic values expressed in 1988 dollars associated with indirect and direct wildlife activities found in the 1983 survey. These are the appropriate values to use when assessing expected increases in direct non-hunting days due to an enhancement proposal or losses in direct opportunities for a compensation/mitigation claim.

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Table 13 shows the net economic values of indirect and direct wildife activities. These values were found by multiplying the number of participants in indirect activities by the average annual values from Table 12; and the number of days of direct activities by the average daily values from Table 12.

Table 14 shows the net economic value associated with trapping by license holders for the 1986/87 season. The net economic values of trapping refer to the net income or revenue earned by trappers after the deduction of their costs.

Table 15 summarizes, from the earlier tables, expenditures on different types of wildlife related activities.

Table 16 summarizes the net economic values associated with the different types of wildlife related activities. The table also shows the preservation values associated with wildlife. This refers to the amount provincial residents would be willing to voluntarily contribute each year to preserve the present abundance and variety of wildlife in B.C. This can be thought of as a non-use value of wildlife composed of the values placed on the existence of wildlife, the option to use wildlife in the future and the bequest of wildlife to future generations.

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Economist
Wildlife Branch

Enclosures

RR/dw

Table 1. ESTIMATED NUMBER OF PARTICIPANTS IN NON-HUNTING WILDLIFE ACTIVITIES (Numbers in brackets are percentages of regional voting age populations)

Region of Residence	Participation Direct Non-hunting Activities	Participation Indirect Non-Hunting Activities	Participation Around Home or Cottage
Vancouver	91,800 (24.9)	250,900 (67.9)	295,100 (79.9)
Lower Mainland	240,800 (22.1)	669,400 (61.3)	793,200 (72.7)
Thompson-Nicola	24,200 (27.1)	62,800 (70.3)	65,900 (73.9)
Kootenay	33,500 (32.7)	72,700 (70.9)	78,900 (76.8)
Cariboo	9,400 (22.9)	28,200 (68.5)	31,800 (77.4)
Skeena	15,700 (26.4)	41,800 (70.2)	43,100 (72.5)
Omineca-Peace	24,600 (23.7)	74,800 (72.1)	74,500 (71.7)
Okanagan	32,700 (21.1)	98,500 (63.5)	116,300 (75.0)
British Columbia	472,700 (23.5)	1,299,100 (64.6)	1,498,600 (74.5)

Direct Activities refers to any outdoor activities for which the main purpose of the outing was to watch, feed, photograph or study wildlife in the field.

Indirect Activities refers to any outdoor activities where one happened to watch, feed, photograph or study wildlife in the field but the main purpose of the outing was not related to wildlife.

Home or Cottage refer to wildlife activities that take place around ones residence.

Table 2. ESTIMATED NUMBER OF DAYS OF INDIRECT AND DIRECT NON-HUNTING ACTIVITIES BY REGION OF PARTICIPATION

Region of Participation	Indirect Activities		Direct Activities	
	Total Days (in 000's)	Annual Average (per participant)	Total Days	Annual Average (per participant)
Vancouver Island	29,266	66	2,100,800	11.9
Lower Mainland	44,084	71	2,849,100	10.1
Thompson-Nicola	6,269	22	829,500	9.8
Kootenay	5,730	30	757,400	10.9
Cariboo	3,479	26	405,700	7.1
Skeena	3,899	47	459,800	13.6
Omineca-Peace	6,287	48	450,800	10.1
Okanagan	8,311	27	667,200	8.1
British Columbia	107,325		8,520,300	

Table 3. ESTIMATED EXPENDITURES - RESIDENT HUNTERS, 1987 - 1988 (1988 Dollars)

REGIONS	Black Bear	Caribou	Cougar	Deer	Elk	Grizzly Bear	Moose	Mountain Goat	Mountain Sheep	Small Game	Upland Birds	Waterfowl	TOTAL
Vancouver Island	445,500	*	57,100	5,829,600	105,200	18,900	*	*	*	457,600	1,201,200	528,600	8,643,700
Lower Mainland	271,700	*	29,400	1,720,300	*	11,900	*	28,000	*	165,600	392,800	3,743,200	6,362,900
Thompson-Nicola	533,100	*	45,600	6,818,700	20,400	10,700	2,327,400	27,000	220,700	710,400	1,966,200	595,600	13,251,500
Kootenay	561,200	24,200	182,700	10,388,600	9,325,900	328,800	1,102,600	528,000	617,000	623,100	1,644,200	568,000	25,894,300
(a) East Kootenay	481,600	3,200	148,500	7,691,800	8,865,800	214,900	1,036,600	479,000	617,000	467,300	1,085,200	284,000	21,374,900
(b) West Kootenay	79,600	21,000	34,200	2,696,800	460,100	113,900	66,000	49,000	0	155,800	559,000	284,000	4,519,400
Cariboo	751,900	103,800	51,700	6,027,200	*	118,100	5,776,300	45,600	102,500	659,200	1,838,300	899,300	16,373,900
Skeena	857,800	331,700	*	1,458,000	13,900	315,000	3,139,300	289,800	246,500	845,900	1,420,100	682,400	9,600,700
Omineca-Peace	2,188,400	464,600	*	3,584,200	703,600	618,500	11,405,000	294,300	630,100	1,014,400	1,673,300	855,900	23,422,900
(a) Omineca	1,379,300	89,200		1,733,100	5,900	237,000	7,362,800	125,400	22,000	649,200	1,071,100	171,200	12,846,400
(b) South Peace	675,000	51,500		1,817,700	214,100	140,900	3,150,600	2,700	46,900	248,300	542,100	684,700	7,574,700
(c) North Peace	134,100	323,900		33,400	483,600	240,600	891,600	166,200	551,200	116,900	60,100	0	3,001,800
Okanagan	333,300	*	41,400	7,199,200	428,000	*	347,700	14,800	104,500	752,600	1,326,800	907,200	11,455,100
British Columbia	6,026,200	1,083,300	407,500	45,722,100	11,599,600	1,422,800	26,044,600	1,393,500	1,997,800	5,228,700	11,463,700	8,780,000	121,170,000

NOTE: The columns for the big game species do not add up to the provincial totals since some effort has not been allocated by region.

Table 4. ESTIMATED EXPENDITURES - NON-RESIDENT HUNTERS, 1987 - 1988 (1988 Dollars)

REGIONS	Black Bear	Caribou	Cougar	Deer	Elk	Grizzly Bear	Moose	Mountain Goat	Mountain Sheep	Wolf	TOTAL
Vancouver Island	161,700	*	7,000	10,600	14,500	8,200	*	*	*	11,800	213,800
Lower Mainland	18,500	*	*	4,000	*	*	*	4,800	*	18,100	45,400
Thompson-Nicola	67,100	*	12,500	37,200	*	*	11,900	50,500	29,300	5,300	213,800
Kootenay	1,121,600	21,500	10,500	968,000	1,294,600	110,300	76,300	221,000	121,800	*	3,945,600
East Kootenay	952,800	*	2,500	933,600	1,274,200	78,400	64,800	187,100	121,800		3,615,200
West Kootenay	168,800	21,500	8,000	34,400	20,400	31,900	11,500	33,900	*		330,400
Cariboo	285,400	43,400	16,000	296,800	*	103,600	712,100	78,700	53,700	30,800	1,620,500
Skeena	693,500	309,200	*	47,500	*	337,100	696,400	550,700	300,200	506,900	3, 31,500
Omineca-Peace	1,465,000	637,200	*	62,500	432,500	892,400	1,553,800	672,900	819,600	557,100	7,093,000
(a) Omineca	622,000	190,200		26,600	31,000	303,000	651,500	319,700	97,900	189,400	2,831,300
(b) South Peace	311,500	94,800		7,800	27,800	154,600	282,200	43,900	26,900	83,600	1,033,100
(c) North Peace	531,500	352,200		28,100	373,700	434,800	620,100	309,300	694,800	284,100	3,528,600
Okanagan	177,300	*	72,600	137,400	17,800	*	1,000	10,400	33,300	*	449,800
British Columbia	3,990,100	1,011,300	118,600	1,559,000	1,759,400	1,446,600	3,051,500	1,589,000	1,357,900	1,130,000	17,013,400

Table 5. ESTIMATED EXPENDITURES IN BRITISH COLUMBIA ON NON-HUNTING WILDLIFE ACTIVITIES BY PROVINCIAL RESIDENTS (1988 DOLLARS)

Region	Residential Activities	Indirect Activities	Direct Activities	Total
		(000's Dollars)		
Vancouver Island	$ 9,219	$ 7,742	$ 67,823	$ 84,784
Lower Mainland	24,598	26,878	235,982	287,458
Thompson-Nicola	2,310	3,087	23,492	28,889
Kootenay	2,936	3,982	39,863	46,781
(a) East Kootenay	1,292	1,752	17,540	20,584
(b) West Kootenay	1,644	2,230	22,323	26,197
Cariboo	1,022	1,520	14,499	17,041
Skeena	1,802	2,059	21,592	25,453
Omineca-Peace	3,163	3,906	45,555	52,623
(a) Omineca	2,024	2,500	29,155	33,679
(b) South Peace	1,012	1,250	14,578	16,840
(c) North Peace	127	156	1,822	2,105
Okanagan	3,593	2,996	35,189	41,778
British Columbia	$48,643	$52,170	$483,995	$584,808

Table 6. ESTIMATED EXPENDITURES ON TRAPPING (1988 Dollars)

Region	Capital Expenditures (000's Dollars)	Operating Expenditures	Total Expenditures
Vancouver Island	$ 129	$ 70	$ 199
Lower Mainland	206	133	339
Thompson-Nicola	358	257	615
Kootenay	678	473	1,151
Cariboo	396	303	699
Skeena	940	461	1,401
Omineca-Peace	2,495	1,508	4,003
Okanagan	295	187	482
British Columbia	$5,497	$3,393	$8,889

Table 7. EMPLOYMENT IMPACTS OF EXPENDITURES OF WILDLIFE ACTIVITIES (Man-Years)

Region	Resident Hunting	Non-resident Hunting	Non-hunting Activities	Trapping	Total
Vancouver Island	99	7	1,472	2	1,580
Lower Mainland	73	1	4,990	3	5,067
Thompson-Nicola	152	7	502	6	667
Kootenay	298	121	815	11	1,245
(a) East Kootenay	246	111	359	9	725
(b) West Kootenay	52	10	456	2	520
Cariboo	188	50	304	7	549
Skeena	110	105	425	13	653
Omineca-Peace	269	218	917	38	1,442
(a) Omineca	147	75	587	13	822
(b) South Peace	87	32	293	12	424
(c) North Peace	35	111	37	13	196
Okanagan	132	13	728	4	878
Unallocated	72				
British Columbia	1,393	522	10,153	84	12,153

Table 8. AVERAGE DAILY NET ECONOMIC VALUES OF RESIDENT HUNTING (1988 Dollars)

REGIONS	Black Bear	Caribou	Cougar	Deer	Elk	Grizzly Bear	Moose	Mountain Goat	Mountain Sheep	Small Game	Upland Birds	Waterfowl
Vancouver Island	26.30	*	47.90	33.70	51.70	62.90	*	46.90	*	16.40	18.30	21.80
Lower Mainland	32.10	*	47.90	35.00	*	62.90	*	41.30	*	16.40	18.30	21.80
Thompson-Nicola	28.40	29.70	47.90	32.20	31.40	62.90	36.70	46.90	71.40	16.40	18.30	21.80
Kootenay	22.10	29.70	47.90	34.30	42.80	46.90	36.70	38.20	54.00	16.40	18.30	21.80
Cariboo	23.10	29.70	47.90	30.90	*	62.90	42.10	46.90	59.20	16.40	18.30	21.80
Skeena	25.50	38.20	*	35.30	40.20	63.60	44.70	48.60	58.00	16.40	18.30	21.80
Omineca-Peace	24.50	41.40	*	35.60	44.90	64.30	45.40	48.20	80.90	16.40	18.30	21.80
Okanagan	25.20	*	47.90	31.40	36.30	62.90	34.90	46.90	55.70	16.40	18.30	21.80
British Columbia	25.10	38.80	47.90	33.20	42.70	59.60	42.00	46.80	65.00	16.40	18.30	21.80

Table 9. AVERAGE DAILY NET ECONOMIC VALUES OF NON-RESIDENT HUNTING (1988 Dollars)

REGIONS	Black Bear	Caribou	Cougar	Deer	Elk	Grizzly Bear	Moose	Mountain Goat	Mountain Sheep	Wolf
Vancouver Island	161	*	316	160	150	188	*	224	*	157
Lower Mainland	132	*	316	139	*	188	*	224	*	157
Thompson-Nicola	178	*	316	139	*	*	77	*	118	157
Kootenay	169	*	316	175	164	161	160	200	333	*
Cariboo	127	196	316	123	*	106	99	224	223	153
Skeena	150	206	*	102	255	193	146	234	287	224
Omineca-Peace	210	291	*	139	255	207	169	342	347	227
Okanagan	161	*	316	139	*	188	104	*	104	*
British Columbia	171	239	316	154	199	192	141	267	304	218

Table 10. TOTAL NET ECONOMIC VALUE OF RESIDENT HUNTING, 1987 - 1988 (1988 Dollars)

REGIONS	Black Bear	Caribou	Cougar	Deer	Elk	Grizzly Bear	Moose	Mountain Goat	Mountain Sheep	Small Game	Upland Birds	Waterfowl	TOTAL
Vancouver Island	107,500	•	17,100	2,691,200	64,000	6,800	•	•	•	249,000	964,700	292,700	4,393,000
Lower Mainland	80,000	•	8,800	824,800	•	4,300	•	5,100	•	90,100	315,500	2,072,600	3,401,200
Thompson-Nicola	138,900	•	13,700	3,007,700	7,500	3,800	1,067,700	5,500	96,100	386,600	1,571,100	329,800	6,636,400
Kootenay	113,800	3,800	54,700	4,881,200	4,695,900	118,200	505,800	88,500	202,900	339,100	1,320,500	314,500	12,638,900
(a) East Kootenay	97,600	500	44,500	3,614,100	3,577,600	56,600	475,600	88,300	202,900	254,300	871,500	157,200	9,440,700
(b) West Kootenay	16,200	3,300	10,200	1,267,100	1,118,300	61,600	30,200	200	•	84,800	449,000	157,300	3,198,200
Cariboo	159,300	16,300	15,500	2,551,200	•	42,500	3,039,800	9,400	37,000	359,700	1,476,400	498,000	8,204,100
Skeena	200,700	67,000	•	705,800	6,600	114,500	1,754,100	61,800	87,200	460,300	1,140,800	377,800	4,975,800
Omineca-Peace	491,900	101,800	•	1,747,900	371,700	227,200	6,472,300	62,200	305,900	553,000	1,344,300	473,900	12,151,100
(a) Omineca	310,000	19,500		845,200	3,100	87,100	4,178,400	26,500	10,800	353,300	860,400	94,800	6,789,100
(b) South Peace	151,800	11,300		886,400	113,200	51,700	1,787,900	600	23,200	135,100	435,500	379,100	3,975,800
(c) North Peace	30,100	71,000		16,300	255,400	88,400	506,000	35,100	271,900	63,600	48,400	•	1,386,200
Okanagan	77,100	•	12,300	3,096,600	182,800	•	152,500	3,100	35,500	409,500	1,861,600	502,300	5,537,300
British Columbia	1,387,700	222,400	122,000	20,731,800	5,827,100	484,500	13,673,400	286,000	791,800	2,845,300	9,201,900	4,861,600	60,440,500

NOTE: The columns for the big game species do not add up to the provincial total since some hunting effort has not been allocated by region.

Table 16. SUMMARY OF ESTIMATED NET ECONOMIC VALUE OF WILDLIFE AND WILDLIFE-RELATED ACTIVITIES (000's 1988 Dollars)

REGIONS	Hunting		Non-hunting Activities		Trapping	Preservation Values	Totals
	Resident	Non-resident	Indirect Activities	Direct Activities			
Vancouver Island	4,393	118	19,620	25,254	305	23,787	73,477
Lower Mainland	3,401	24	51,745	60,618	(2)	62,958	178,744
Thompson-Nicola	6,636	109	4,854	6,904	331	4,890	23,724
Kootenay	12,638	2,284	4,915	9,184	322	7,383	36,726
(a) East Kootenay	9,440	2,095	2,163	4,041	258	3,249	21,246
(b) West Kootenay	3,198	189	2,752	5,143	64	4,134	15,480
Cariboo	8,204	719	2,660	3,706	632	2,974	18,895
Skeena	4,975	1,953	3,696	5,472	44	4,137	20,277
Omineca-Peace	12,150	5,044	6,343	9,980	1,691	9,746	44,954
(a) Omineca	6,789	1,730	4,060	6,387	580	6,237	25,783
(b) South Peace	3,975	736	2,030	3,194	555	3,119	13,609
(c) North Peace	1,386	2,578	253	399	556	390	5,562
Okanagan	5,537	242	5,989	7,924	236	10,203	30,131
British Columbia	60,440	10,496	99,822	129,042	3,559	126,078	429,437

NOTE: The columns for resident hunting and overall totals do not add up to the provincial values since some resident hunting has not been allocated to region.

Table 11. TOTAL NET ECONOMIC VALUE OF NON-RESIDENT HUNTING (1988 Dollars)

REGIONS	Black Bear	Caribou	Cougar	Deer	Elk	Grizzly Bear	Moose	Mountain Goat	Mountain Sheep	Wolf	TOTAL
Vancouver Island	88,900	•	4,400	6,700	6,800	4,900	•	•	•	7,000	18,700
Lower Mainland	8,300	•	•	2,200	•	•	•	2,500	•	11,200	24,200
Thompson-Nicola	40,800	•	7,900	20,400	•	•	3,900	26,000	7,000	3,500	109,500
Kootenay	646,900	12,900	6,600	669,600	657,300	56,200	52,200	101,600	81,600	•	2,284,900
(a) East Kootenay	549,600	0	1,600	645,800	647,000	39,900	44,300	86,000	81,600		2,095,800
(b) West Kootenay	97,300	12,900	5,000	23,800	10,300	16,300	7,900	15,600	0		189,100
Cariboo	123,700	21,400	10,100	144,300	•	34,800	301,300	40,500	24,100	18,900	719,100
Skeena	355,000	160,100	•	17,100	•	202,800	434,500	296,200	173,300	314,400	1,953,400
Omineca-Peace	1,050,000	465,900	•	34,300	341,400	584,600	1,122,200	529,100	572,200	345,200	5,044,900
(a) Omineca	445,800	139,100		14,600	24,500	198,500	470,500	251,400	68,400	117,400	1,730,200
(b) North Peace	380,900	257,500		7,800	295,000	284,800	447,900	243,200	485,100	176,000	2,578,200
(c) South Peace	223,300	69,300		11,900	21,900	101,300	203,800	34,500	18,700	51,800	736,500
Okanagan	97,400	•	45,800	75,500	10,900	•	•	5,400	7,000	•	242,000
British Columbia	2,411,000	660,300	74,800	970,100	1,016,400	883,300	1,914,100	1,001,300	865,200	700,200	10,196,700

Table 12. AVERAGE NET ECONOMIC VALUES OF INDIRECT AND DIRECT WILDLIFE ACTIVITIES (1988 Dollars)

Regions	Indirect Activities Average Annual Values	Direct Activities Average Daily Values
Vancouver Island	$78.20	$13.40
Lower Mainland	77.30	15.20
Thompson-Nicola	77.30	14.60
Kootenay	67.60	14.40
Cariboo	94.30	20.00
Skeena	88.50	15.10
Omineca-Peace	84.80	21.80
Okanagan	60.80	13.80
British Columbia	$76.70	$15.10

Table 13. NET ECONOMIC VALUES OF INDIRECT AND DIRECT WILDLIFE ACTIVITIES (1988 Dollars)

Regions	Indirect Activities (000's)	Direct Activities (000's)
Vancouver Island	$19,620	$ 25,254
Lower Mainland	51,745	60,618
Thompson-Nicola	4,854	6,904
Kootenay	4,915	9,184
(a) East Kootenay	2,163	4,041
(b) West Kootenay	2,752	5,143
Cariboo	2,660	3,706
Skeena	3,696	5,472
Omineca-Peace	6,343	9,980
(a) Omineca	4,060	6,387
(b) South Peace	2,030	3,194
(c) North Peace	253	399
Okanagan	5,989	7,924
British Columbia	$99,822	$129,042

Table 14. ESTIMATED NET ECONOMIC VALUE OF TRAPPING
(1988 Dollars)

Regions	Net Revenues (000's)
Vancouver Island	$ 305
Lower Mainland	(2)
Thompson-Nicola	331
Kootenay	322
(a) East Kootenay	258
(b) West Kootenay	64
Cariboo	632
Skeena	44
Omineca-Peace	1,691
(a) Omineca	580
(b) South Peace	555
(c) North Peace	556
Okanagan	236
	$3,559

Note: Brackets indicate negative values.

Table 15. SUMMARY OF ESTIMATED EXPENDITURES ON WILDLIFE RELATED ACTIVITIES
(000's 1988 Dollars)

REGIONS	Hunting		Non-hunting Activities			Trapping	Totals
	Resident	Non-resident	Residential	Indirect Activities	Direct Activities		
Vancouver Island	8,643	213	9,219	7,742	67,823	199	93,839
Lower Mainland	6,362	45	24,598	26,878	235,982	339	294,204
Thompson-Nicola	13,251	213	2,310	3,087	23,492	615	42,968
Kootenay	25,893	3,945	2,936	3,982	39,863	1,151	77,770
(a) East Kootenay	21,374	3,615	1,292	1,752	17,540	920	46,493
(b) West Kootenay	4,519	330	1,644	2,230	22,323	231	31,277
Cariboo	16,373	1,620	1,022	1,520	14,499	699	35,733
Skeena	9,600	3,431	1,802	2,059	21,592	1,401	39,885
Omineca-Peace	23,422	7,093	3,163	3,906	45,555	4,003	87,142
(a) Omineca	12,846	2,431	2,024	2,500	29,155	1,326	50,282
(b) South Peace	7,574	1,033	1,012	1,250	14,578	1,339	26,786
(c) North Peace	3,001	3,628	127	156	1,822	1,338	10,072
Okanagan	11,455	449	3,593	2,996	35,189	482	54,164
British Columbia	121,170	17,013	48,643	52,170	483,995	8,889	731,880

NOTE: The columns for resident hunting and overall totals do not add up to the provincial values since some resident hunting has not been allocated to region.